

Remarks/Arguments

The Office Action of April 29, 2004 and the references cited therein have been carefully studied and reviewed, and in view of the foregoing Amendment and following representations, reconsideration is respectfully requested.

The specification has been amended to correct minor errors, including one in paragraph [0135] regarding reference numeral 15. Accordingly, it is respectfully requested that the Examiner withdraw the objection to the drawings.

Claims 19 – 25, drawn to the non-elected invention, have been canceled.

Claim 6 has been amended to replace Teflon® with its well-known chemical composition. Accordingly, it is respectfully requested that the rejection of claim 6, under 35 USC 112, second paragraph, be withdrawn.

Claims 4 and 9 have been re-written in independent form as new claims 26 and 27, respectively. Accordingly, new claims 26 and 27 are seen to be allowable for the same reasons that the Examiner did not reject claims 4 and 9 under prior art.

Finally, claims 1 and 11 have been amended so as to even more clearly patentably distinguish the present invention over the reference to Miyazaki (USP 6,444,047).

More specifically, Miyazaki discloses a wafer cleaning apparatus in which pure water (see FIG. 3) is mixed with chemical fluids in-line before being delivered

onto a wafer. Thus, especially in the case of ozone, it is difficult to use the ozone in a high concentration because water becomes saturated with ozone in a range of only 10 - 20 ppm at room temperature.

On the other hand, one aim of Applicants' invention is to increase the efficacy of the cleaning operation, especially in the case in which ozone is used. To this end, the present invention provides a gas guard 15b (FIG. 4) that defines a chamber below the gas injection tube 15a of the gas spray unit. In addition, and as distinguished from Miyazaki, each of amended claims 1 and 11 recites that the de-ionized water supply 13a, 13b is oriented to supply de-ionized water onto a wafer 23 (FIG. 2) at a location outside the chamber defined by the gas guard 15b to thereby provide a layer of de-ionized water on the wafer. Accordingly, the gas issuing from the gas injection tube 15a is confined by the chamber and hence, reduces the thickness of the layer of de-ionized water provided on the wafer by the de-ionized water supply. As a result, the diffusion of the gases into the layer of water is facilitated (par. [0095] of Applicants' original specification).

For these reasons, namely because of the differences between Applicants' invention, as is now claimed, and the Miyazaki, including the lack of disclosure or suggestion in Miyazaki of a wafer cleaning apparatus having a de-ionized water supply that provides a layer of water on a wafer, and a gas spray unit that has a gas

guard defining a chamber over the wafer to facilitate the diffusion of the cleaning gas into the layer of water, it is seen that Miyazaki does not anticipate or render obvious Applicants' claims. For these reasons, the application is thus seen to be in condition for allowance. Accordingly, early reconsideration and such allowance of the claims are respectfully requested.

Respectfully submitted,

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Date: July 29, 2004